1. A printing workflow system disposed in a network for coordinating production of a document processing job among a plurality of cells, wherein each cell submits a bid to process the document processing job received by the printing workflow system, the printing workflow system comprising:

a search module for searching which one of the cells can execute the job and creating a first subset of cells available to process the document processing job,

a transfer module for transferring information to the first subset of cells about the document-processing job,

a receiving module for receiving bids in response to the information transferred to the first subset of cells to process the document-processing job;

a selector module for selecting one or more cells to process the document processing job based on information in the bids received; and

a queuing module for dispatching the document processing job to the selected one or more cells for processing.

2. The printing workflow system as recited in claim 1 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

3. The printing workflow system as recited in claim 1 wherein the printing workflow system stores all information regarding current document jobs that have arrived in the shop and have yet to be allocated for production.

4. The printing workflow system as recited in claim 1 wherein the print flow assigns priority value to each new document-processing job that arrives.

5. The printing workflow system as recited in claim 1 wherein selector module selects the first subset of cells with the lowest bids.

6. In a printing workflow system a method for processing document processing jobs by receiving bids by a plurality of cells to process the document processing job, the method comprising:

searching which one of the cells can execute the job and creating a first subset of cells available to process the document-processing job,

transferring information to the first subset of cells about the document processing job,

receiving bids in response to the information transferred to the first subset of cells to process the document processing job, and

selecting cells to process the document-processing job based on information in the bids received.

7. The method as recited in claim 6 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

8. The method as recited in claim 7 wherein the printing workflow system stores all information regarding current document jobs that have arrived in the shop and have yet to be allocated for production.

9. The method as recited in claim 6 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

10. The method as recited in claim 6 wherein the printing workflow system assigns a priority value to each new document-processing job that arrives.

11. The method as recited in claim 6 wherein selector module selects the first subset of cells with the lowest bids.

12. A scheduling device for scheduling a document processing job in a printing workflow system, the scheduling device comprising:

a first module for determining whether the document-processing job could be accomplished in one cell or a plurality of cells,

a second module for determining the time it would take to process the document-processing job in the first module,

a third module for defining timing parameters to accomplish the document processing job based on the information from the second module,

a fourth module for applying the timing parameters to the cell or a plurality of cells to process the document processing job by a specified due date, and

a fifth module for queuing the document processing job in one or more cells based in the information from the fourth module to efficiently process the document processing job in the specified due date.

13. The scheduling device as recited in claim 12 wherein the printing workflow system stores all information regarding the currently pending document jobs by each cell.

14. The scheduling device as recited in claim 12 wherein the printing workflow system stores all information regarding current document jobs that have arrived in the shop and have yet to be allocated for production.

15. The scheduling device as recited in claim 12 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

16. In a scheduling device, a method for scheduling a document processing job in a printing workflow system, the method comprising:

determining whether the document processing job could be accomplished in one cell or a plurality of cells,

determining the time it would take to process the document-processing job in the first module,

defining timing parameters to accomplish the document-processing job based on the information from the second module,

applying the timing parameters to the cell or a plurality of cells to process the document processing job by a specified due date, and

queuing the document processing job in one or more cells based in the information from the fourth module to efficiently process the document processing job in the specified due date.

17. The method as recited in claim 16 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

18. The method as recited in claim 16 wherein the printing workflow system stores all information regarding current document jobs that have arrived in the shop and have yet to be allocated for production.

19. The method as recited in claim 16 wherein the printing workflow system stores all information regarding the currently pending document jobs in each cell.

20. A device for assigning a unique ID to a document processing job, the device comprising:

a matrix for defining operations performed by a printing workflow system wherein a new operation in the printing workflow system is prepended to the matrix;

a descriptor module for creating a new matrix by assigning a value in the matrix for each operation required to be performed by the document processing job; and

a converter module for converting the new matrix into a numerical format that represent the unique ID.

21. The device as recited in claim 20 wherein the descriptor module assigns a number 1 for each operation that needs to be completed and number 0 if the operation is not needed.

22. The device as recited in claim 20 wherein the new matrix will result into a binary string.

23. The device as recited in claim 22 wherein the converter module converts the binary string of the new matrix into its decimal equivalent.

24. In a device, a method for assigning a unique ID to a document processing job, the method comprising:

defining operations performed by a printing workflow system wherein a new operation in the printing workflow system is prepended to a matrix;

creating a new matrix by assigning a value in the matrix for each operation required to be performed by the document processing job; and

converting the new matrix into a numerical format that represents the unique ID.

25. The method as recited in claim 24 wherein the descriptor module assigns a number 1 for each operation that needs to be completed and number 0 if the operation is not needed.

26. The method as recited in claim 24 wherein the new matrix will result into a binary string.

27. The method as recited in claim 24 wherein the unique ID is used to determine which cell the job needs to be routed to completed it.

28. A device for assigning a descriptive ID to a document processing job, the device comprising:

a unique ID for identifying uniquely the document processing job;

a first module for appending to the unique ID a due date of the document-processing job;

a second module for appending to the unique ID a due time of the document-processing job;

a third module for appending to the unique ID the number of duplicates needed for the document-processing job;

a fourth module for appending to the unique ID a number of units associated with each operation in the document processing job; and

a fifth module for creating the descriptive ID by appending the information in the first, second, third, and fourth modules into a string.

29. The device as recited in claim 28 wherein the string is decimal string.

30. The device as recited in claim 29 further comprising a converter module for converting the string into hexadecimal.

31. In a device, a method for assigning a descriptive ID to a document processing job, the method comprising:

identifying a unique ID for the document-processing job;

appending to the unique ID a due date of the document processing job;

appending to the unique ID a due time of the document-processing job;

appending to the unique ID the number of duplicates needed for the document-processing job;

appending to the unique ID a number of units associated with each operation in the document processing job; and

creating the descriptive ID by appending the information associated with unique ID and the due date, due time, number of duplicates, and number of units with each operation into a string.

32. The method as recited in claim 31 wherein the string is decimal string.

33. The method as recited in claim 32 further comprising a converter module for converting the string into hexadecimal.

34. A scheduling device for scheduling a document processing job in a printing workflow system, the scheduling device comprising:

a first module for determining whether there are any constraints for optimization;

a second module for determining whether the cost function is linear; and

a third module for optimizing the cost function subject to constraints by using standard linear programming techniques.

35. The scheduling device as recited in claim 34 wherein the standard linear programming technique is used to compute Pareto optimal solutions.

36. The scheduling device as recited in claim 35 further comprising determining whether the document-processing job can be done entirely in one cell.

37. The scheduling device as recited in claim 35 further comprising splitting jobs into sub jobs when the document-processing job cannot be done entirely in one cell.